



SAFETY HEALTH AND  
ENVIRONMENTAL AFFAIRS  
JUN 24 1991

# MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 2594 MICROBIOCIDE

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

## SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 2594 MICROBIOCIDE

DESCRIPTION: A polyoxyethylene (dimethyliminio) ethylene (dimethyliminio) ethylene dichloride in water

NFPA 704M/HMIS RATING: 1/1 HEALTH 0/0 FLAMMABILITY 0/0 REACTIVITY 0 OTHER  
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

## SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation of the ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200 has found none of the ingredient(s) hazardous.

## SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: Harmful if swallowed. Avoid breathing vapors. Avoid contact with skin, eyes, or clothing.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

## SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.  
SKIN: Wash thoroughly with soap and rinse with water. Call a physician.  
INGESTION: Do not induce vomiting. Give water. Call a physician.  
INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

## SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Can cause transient irritation.  
SKIN CONTACT: May cause irritation with prolonged contact.  
INGESTION: Can be harmful.  
INHALATION: May cause irritation to the respiratory tract and lungs.

PAGE 1 OF 8



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## SECTION 5 HEALTH EFFECTS INFORMATION

( CONTINUED )

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned, or identified in Section 6 or 14.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

## SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have been conducted as 60% active ingredient. (Note: our product is 20% active ingredient.) The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD50 = 1,850 mg/kg (female rats)  
LD50 = 3,690 mg/kg (male rats)

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD50 = Greater than 2,000 mg/kg

ACUTE INHALATION TOXICITY (ALBINO RATS):

COMMENTS: Animals survived a 14-day observation period following a one-hour exposure to 26.4 mg/l.

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

COMMENTS: Produced minimal, transient ocular irritation.

SKIN SENSITIZATION: Guinea pig: No evidence of sensitization.  
Human: 2% aqueous solution produced no sensitization.

OTHER TOXICITY RESULTS:

Three short-term mutagenicity assays were negative.

The no observable effect level for a 90-day feeding study in rats was 3,000 ppm in the diet. At doses greater than 10,000 ppm mineralization of the kidney tubules was observed.

The no observable effect level for systemic effects in a 90-day dermal toxicity study in rabbits was greater than 1,000 mg/kg. The no observable effect level or dermal irritation was 10 mg/kg.



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## SECTION 6 TOXICOLOGY INFORMATION

( CONTINUED )

A teratology study with rats showed no effects.

The no observable effect level for reproductive effects in a two-generation reproduction study in rats was 6,000 ppm.

## SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Yellow	FORM: Liquid	ODOR: Mild, slightly sweet
DENSITY:	8.7 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.05 @ 25 Degrees F	ASTM D-1298
pH (NEAT) =	6	ASTM E-70
VISCOSITY:	7 cps @ 60 Degrees F	ASTM D-2983
FREEZE POINT:	23 Degrees F	ASTM D-1177
BOILING POINT:	205 Degrees F @ 760 mm Hg	ASTM D-86
FLASH POINT:	None	

NOTE: These physical properties are typical values for this product.

## SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None

EXTINGUISHING MEDIA: This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use water to cool containers exposed to fire.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve NOx under fire conditions.

## SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: None known.

FEEDING EQUIPMENT: Do not use with aluminum, brass, carbon steel, nickel or 304 or 316SS.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO2, NOx may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

## SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed



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## SECTION 10 PERSONAL PROTECTION EQUIPMENT

( CONTINUED )

since the volatility and toxicity are low. If significant mists or aerosols are generated, wear a NIOSH approved or equivalent respirator.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles when attaching feeding equipment or doing maintenance.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

## SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

### SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

This product is toxic to fish. It should not be directly discharged into lakes, ponds, streams, waterways or public water supplies.

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, (i.e. D001 through D017) nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be deep-well injected in accordance with local, state and



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## SECTION 11 SPILL AND DISPOSAL INFORMATION

( CONTINUED )

federal regulations.

## SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA: Results below based on 60% active ingredient level.

### Vertebrates:

96 hour static acute LC50 to Bluegill Sunfish = 0.45 ppm

96 hour static acute LC50 to Bluegill Sunfish = 6.7 ppm (in natural river water)

96 hour static acute LC50 to Rainbow Trout = 0.43 ppm

96 hour static acute LC50 to Sheepshead Minnow = Greater than 600 ppm

### Invertebrates:

48 hour EC50 to Daphnia magna = 0.16 ppm

16 day LC50 to Daphnia magna = 1.3 ppm

16 day EC50 (for reproductive effects) to Daphnia magna = Greater than 1 ppm

96 hour static acute LC50 to Mysid Shrimp = 13 ppm

48 hour static acute EC50 to Quahog Clam = 0.23 ppm

### OTHER STUDIES

Acute oral LD50 to Bobwhite Quail = 1.0 ml/kg

Dietary LC50 to Bobwhite Quail = Greater than 5,620 ppm

Dietary LC50 to Mallard Ducks = Greater than 20,000 ppm

If released into the environment, see CERCLA in Section 14.

## SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - PRODUCT IS NOT REGULATED  
DURING TRANSPORTATION

## SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.



# MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 2594 MICROBIOCIDE

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## SECTION 14 REGULATORY INFORMATION

( CONTINUED )

### FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, this product is not hazardous.

CERCLA/SUPERFUND, 40 CFR 117, 302:

Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients (at a level of 1% or greater) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

This active ingredient is exempted under TSCA and regulated under FIFRA.

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA), 7 USC 135: EPA Reg. No. 1706-159.

This product is registered for use as a microorganism control chemical used in industrial recirculating cooling water tower systems and in



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PRODUCT NALCO 2594 MICROBIOCIDES

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## SECTION 14 REGULATORY INFORMATION

( CONTINUED )

air washer systems. In all cases follow instructions on the product label.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:  
If this product becomes a waste, it does not meet the criteria of a hazardous waste.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):  
None of the ingredients are specifically listed.

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:  
This product does not contain ingredients covered by the Clean Air Act.

### STATE REGULATIONS:

#### CALIFORNIA PROPOSITION 65:

None of the chemicals on the current Proposition 65 list are known to be present in this product.

#### MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

### STATE RIGHT TO KNOW LAWS:

This product does not contain ingredients listed by State Right To Know Laws.

### INTERNATIONAL REGULATIONS:

This is not a WHMIS controlled product under The House of Commons of Canada Bill C-70.

## SECTION 15 ADDITIONAL INFORMATION

None

## SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated



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## SECTION 16 USER'S RESPONSIBILITY

( CONTINUED )

so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

## SECTION 17 BIBLIOGRAPHY

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